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## Patent Abstracts of Japan

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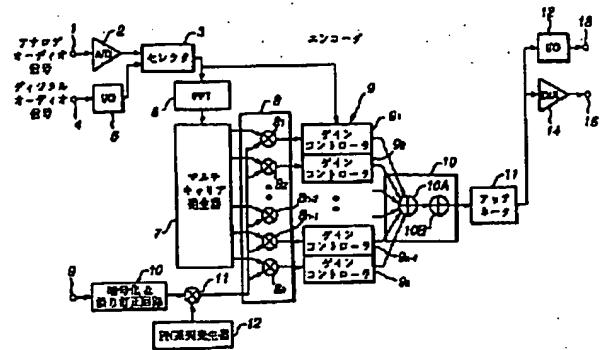
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APPLICANT : SONY CORP;

INVENTOR : SATO HIDEO;

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TITLE : VOICE INFORMATION TRANSMITTING DEVICE AND METHOD AND VOICE INFORMATION RECEIVING DEVICE AND METHOD AND RECORD MEDIUM



**ABSTRACT :** PROBLEM TO BE SOLVED: To superpose an embedded signal on voice information while maintaining a roughly complete hearing masking by primarily modulating additional information, generating secondarily modulated information while multiplying plural carriers whose center frequencies are different on the primarily modulated information and superposing the secondarily modulated information on the voice information.

SOLUTION: The audio data changed over with a selector 3 are inputted to a fast Fourier transformation part FFT 6 and envelopes are detected. A multicarrier generator 7 plurally generates PSK carriers whose center frequencies are different based on these information. Besides, additional information to be embedded are supplied from a data input terminal 9 to a ciphering and error processing circuit 10. The processed signal is primarily modulated by the pseudo random signal from a PN system generator 12 in a multiplier 11 to be inputted to respective multipliers  $8_1-8_n$  of a multiplier 8. Then, 1-N kinds of carriers from the multicarrier generator for multi-PSK 7 are inputted to the multiplier 8 and a secondary modulation by PSKs is applied to the processed signal.

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